

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
8 December 2005 (08.12.2005)

PCT

(10) International Publication Number
WO 2005/115954 A2

(51) International Patent Classification⁷: **C07C 45/63**

(21) International Application Number:
PCT/US2005/017193

(22) International Filing Date: 17 May 2005 (17.05.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/573,497 21 May 2004 (21.05.2004) US

(71) Applicant (for all designated States except US): **DOW GLOBAL TECHNOLOGIES INC.** [US/US]; Washington Street, 1790 Building, Midland, MI 48674 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **DAVIS, Clark, S.** [US/US]; 204 Junier Street, Lake Jackson, TX 77566 (US).

(74) Agent: **PRIETO, Joe, R.**; The Dow Chemical Company, Intellectual Property, P.O. Box 1967, Midland, MI 48641-1967 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PROCESS FOR PREPARING 1,3-DIBROMOACETONE, 1,3-DICHLOROACETONE AND EPICHLOROHYDRIN

(57) Abstract: A process for preparing 1,3-dibromoacetone, 1,3-dichloroacetone and epichlorohydrin which comprises: (a) reacting acetone with 2 moles of bromine to make a mixture of brominated acetone derivatives and byproduct hydrogen bromide; (b) equilibrating the mixture of brominated acetone derivatives and hydrogen bromide to produce 1,3-dibromoacetone as the major product; (c) crystallizing the 1,3-dibromoacetone; and (d) isolating the 1,3-dibromoacetone. The process may further include the steps of (e) reacting the 1,3-dibromoacetone with a chloride source to produce 1,3-dichloroacetone; (f) hydrogenating the isolated 1,3-dichloroacetone to produce 1,3-dichlorohydrin; and (g) cyclizing the 1,3-dichlorohydrin with a base to produce epichlorohydrin.

WO 2005/115954 A2